Framework for
The Academic Performance Index

By the Advisory Committee for the
Public Schools Accountability Act of 1999

Approved by the
State Board of Education

JULY 1999

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Introduction

The Public Schools Accountability Act of 1999 requires that by July 1, 1999, the Superintendent of Public Instruction (SPI) develop, with the approval of the State Board of Education (SBE), an Academic Performance Index (API) to measure the performance of California public schools. The Act also provides for the formation of an Advisory Committee to assist in this process. In the discharge of its duties, the Advisory Committee in turn consults with a Technical Design Group.

The Advisory Committee's work on this framework has just begun, and there are many areas requiring additional technical work. Further clarification and recommendations to the SPI and SBE will be presented as the Committee's work unfolds. However, to meet the statutory deadline for API development, the Committee presents the following framework for consideration. The adoption of this framework will allow the Committee's work to proceed under three primary organizers to define specific yearly API's. These organizers are:

- Guiding Principles
- Design Features
- Use of the API

Guiding Principles

In order to ensure an orderly development of the Academic Performance Index (API), it is important to begin with a statement of core beliefs about the API. At times certain of these principles may come into conflict. Ultimately, it will be the role of the SPI and SBE to resolve these conflicts by establishing policy priorities. These policies should be informed by the biennial evaluations required by Education Code Section 52058(b), (c), and (d), which should include validity studies on the API and the API components. These guiding principles are intended to provide a foundation for development of the API and to minimize the possibility of adverse effects related to implementation of the API and its component indicators.

1. **The API must be technically sound.**

   Comparable, valid, and reliable measures must be used to the greatest extent feasible in order to maximize the validity of the API for its intended purposes. Given the high-stakes nature of the API, the many well-meaning educators, parents, and students who will be affected by the API will lose heart if it is not accurate or if it does not evolve in an orderly fashion from year to year. Decisions in developing the API will involve trade-offs between technical soundness and efficiency, but fairness must not be sacrificed. The challenge will be to balance these issues while also considering legal requirements, data availability, and sound education policy.

2. **The API must emphasize student performance, not educational processes.**

   As important as it is to focus on the many central features of schooling that might be considered as indicators (e.g., teachers, instructional resources, curriculum, and school organization), the primary emphasis of the API is student performance.

3. **The API must strive to the greatest extent to measure content, skills, and competencies that can be taught and learned in school and that reflect the state standards.**

   The matter of validity in measurement must be a continuing interest and focus in the development of the API. Adequate research and exploratory studies will need to be conducted to investigate and verify that the API accurately represents what it is intended to measure. Likewise, the API should incorporate and consolidate (where feasible and appropriate) statewide assessments as they become aligned to statewide content and performance standards. Achievement of state education goals--state content and performance standards--must be the framework for the focus on student performance.

4.   The API must allow for fair comparisons.

The API must give all students a fair chance to show what they know and have learned. Given differences in student backgrounds and the resources available to schools, not all schools and students start out the same. Therefore, it is important that any comparisons be made and reported fairly. The challenge is to reflect differences among schools and students fairly without institutionalizing lower expectations for some. More specifically, the API should reflect changes across the distribution of scores, and it should value growth among low-achieving, average, and high-achieving students. It should also be constructed in such a way that improvement is possible regardless of current level of performance (i.e., schools with high-achieving students and schools with low-achieving students can both receive rewards).

5.   The API should include as many students as possible in each school and district.

The API should reflect the achievement and the growth of all students, including English language learners and those with special needs, except students who are legally exempted from testing, who are at grade levels for which appropriate testing instruments are unavailable, or for whom available test results do not reliably and validly measure their achievement. All schools should apply common standards of pupil participation in assessments (i.e., inclusion criteria) to enable valid comparisons among schools.

6.   The API must measure school performance and growth as accurately as possible.

Changes from the base year to the growth year within each overlapping two-year API cycle should reflect actual changes in school performance, not changes in testing procedures, inclusion criteria, or other variables.

7.   The API should strive in the long-term to measure growth based on student-level longitudinal data.

As California transitions to the implementation of the California School Information Services (CSIS), the API should accommodate indicators emanating from CSIS.

8.   The API should be flexible and its component indicators should be stable.

The API should be flexible to accommodate incorporation of future indicators or components and should evolve in an orderly fashion as additional indicators become available and are incorporated over time. Within each overlapping two-year API cycle, all component indicators should be the same, with common definitions from year to year.

9. **The API should be understandable, particularly to educators and parents.**

The API is intended to give parents a picture of schools' status and growth based on a limited set of indicators. Reports about the API should communicate clearly and simply. Explanations about what should and should not be inferred should accompany the release of the data. The API is also intended to provide clear guidance for teachers and administrators about the progress of their schools and lead to appropriate actions to improve the performance of students. Both the general public and education stakeholders must trust the API and believe it is serving its intended functions. Therefore, a concentrated effort will be needed to communicate well to the entire public, including the parents of English language learners.

10. **The API is part of an overall accountability system that must include comprehensive information which incorporates contextual and background indicators beyond those required by law.**

While the API itself must emphasize student performance measures, other descriptive contextual and background information about schools and districts should be utilized as part of the entire accountability system. No matter how valid and reliable any single indicator may be, it should not be interpreted independently of other indicators and environmental factors that reflect the larger context of learning. The accountability system should strive to provide an integrated and comprehensive picture of the schooling enterprise that allows users to determine the reasons for low performance as well as solutions.

11. **The API should minimize burden.**

Minimizing the burden requires designing the API so that it can be implemented within given cost constraints; does not strain current levels of state and local expense in data collection, analysis, and use; and creates a limited respondent burden. Burdens can be reduced by coordinating state and local accountability efforts to minimize the amount of instructional time devoted to testing and other data collection, while ensuring that the information needs of the state, local districts, and schools are met.

12. **The API should support local accountability systems.**

The API should be the foundation of a statewide accountability system that serves as a model for local accountability systems. The use of local indicators, systems, and reporting for local uses should be encouraged in order to augment statewide comparative and longitudinal information.

13. **The API must conform to the requirements and intent of the Public Schools Accountability Act of 1999 as well as related legislation.**

§52052 (a). The index shall consist of a variety of indicators currently reported to the State Department of Education including, but not limited to:
- The results of the achievement test administered pursuant to Section 60640 (STAR Program),
- Attendance rates for pupils and certificated school personnel for elementary schools, middle schools, and secondary schools, and
- Graduation rates for pupils in secondary schools.

Before including high school graduation rates and attendance rates in the index, the Superintendent of Public Instruction shall determine the extent to which the data are currently reported to the state and the accuracy of the data. If the Superintendent of Public Instruction determines that accurate data for these indicators are not available, the Superintendent of Public Instruction shall report to the Governor and the Legislature by September 1, 1999, and recommend necessary action to implement an accurate reporting system.

§52052 (b). Pupil scores from the following tests, when available and when found to be valid and reliable for this purpose, shall be incorporated into the API:
(1) The assessment of the applied academic skills matrix test developed pursuant to Section 60604.
(2) The nationally normed test as augmented pursuant to paragraph (1) of subdivision (f) of Section 60644 (augmented STAR).
(3) The high school exit examination.

§52052 (a). Only the test scores of pupils enrolled in a school district for one year or more may be included in the test results reported in the API.

§52052 (a). Results of the achievement test and other tests specified in 52052 (b) shall constitute at least 60 percent of the value of the index.

52052 (e). Beginning in June 2000, the API shall be used for both of the following:
(1) Measure the progress of schools selected for participation in the Immediate Intervention/Underperforming Schools Program pursuant to Section 52053.
(2) Rank all public schools in the state for the purpose of the High Achieving/Improving Schools Program pursuant to Section 52056.

52056.5. Commencing with the 2000-01 fiscal year, a school that fails to meet annual state growth targets established pursuant to Section 52052 may, as determined by the Superintendent of Public Instruction with the approval of the State Board of Education, be subject to the Immediate Intervention/Underperforming Schools Program pursuant to subdivisions (e) and (f) of Section 52053, and Sections 52053.5, 52054, 52054.5, 52055, and 52055.5.

<u>52057 (a)</u>. The State Board of Education shall establish a Governor's Performance Award Program to provide monetary and nonmonetary awards to schools that meet or exceed API performance growth targets established pursuant to Section 52052, and demonstrate comparable improvement in academic achievement by all numerically significant ethnic and socioeconomically disadvantaged subgroups within schools.

Design Features

Of necessity, the Academic Performance Index (API) will evolve over time. With respect to all of the legally required indicators other than Standardized Testing and Reporting (STAR) Program results, there are important unresolved issues of data availability and accuracy. There is also the question of new components for the API, since the language of the Public Schools Accountability Act provides the opportunity for the identification and incorporation of additional components. Therefore, at the present time, it is only possible to provide a road map for the future development of the API.

Required API Component Indicators

Under the law, the API must include, but is not limited to, the following indicators:

- Results from STAR
- Staff and pupil attendance rates (when available and accurate)
- Graduation rates for pupils in secondary schools (when available and accurate)
- Scores from the California Assessment of Applied Academic Skills or CAAAS (when available, valid, and reliable)
- Scores from the augmented STAR (when available, valid, and reliable)
- Results of the high school exit examination (when available, valid, and reliable)

Test results must constitute at least 60 percent of the API. Pupils must be enrolled in a district for at least a year in order for their test results to be included in the API. Schools must have at least 100 valid STAR test scores from pupils for an API to be calculated and reported.

At the present time there are serious questions surrounding the availability of all of these legally required indicators with the single exception of the STAR results. The California Department of Education does not presently collect the attendance and graduation data necessary to calculate accurate rates for incorporation into the API. Both the CAAAS and the high school exit exam remain to be developed. Results from the CAAAS will probably be available beginning in 2001; the high school exit exam becomes a requirement for graduation in 2004. Results from all components of STAR will be available in 1999, although the law stipulates that results from the augmented portion of the STAR must be valid and reliable for them to be included in the API. Also, the State Board has not yet established performance standards to link those augmented items with state academic content standards.

Other Component Indicators

The law does not limit the API to those components specified in the law. The SPI may recommend and the SBE may identify additional components for inclusion. However, new component indicators should be introduced into the API only after it is determined that the data on which the indicators rest are available, accurate, and stable. This includes both those indicators specified in the law as well as any additional indicators.

Comparability

One important and complex technical design issue that must be resolved is how to handle indicators that summarize valid and important information about pupil achievement at most schools but that are inapplicable to some schools. An important example is the results of assessments administered to English language learners. It is of paramount importance to incorporate the results of the assessments that measure the academic development of English language learners, particularly the forthcoming English Language Development test, into the API.

Methodology for Calculating the Values of Component Indicators

There are two primary methods of summarizing performance on pupil assessments for accountability purposes:

- An average score
- The percentages of pupils scoring at or above certain score levels on an assessment, commonly referred to as percent above cut points or PACs

Which method is selected should be sensitive to gains (and losses) by pupils across the achievement spectrum. It should offer both high- and low-achieving schools the opportunity to demonstrate improvement.

Of the two methodologies listed above, the use of PACs best responds to the intent of the legislation. Under this methodology, the percentages of pupils scoring within specified levels are multiplied by weighting factors and then summarized into a single number.

Note that if cut points are chosen appropriately, this methodology values gains by pupils at both the high and low end of the distribution of scores; it has already been in use for several years in Kentucky and Philadelphia. This approach is particularly appropriate when summarizing the results of standards-based assessments, such as the augmented STAR or the CAAAS, which will employ performance levels in reporting pupil results.

In order to arrive at a summary statistic for an assessment, weights must be assigned to each content area. Ultimately, the value of these weights is a policy question. The weight that is assigned to a content area is an expression of the relative importance that the SPI and the SBE attaches to that content area.

In regard to indicators that do not summarize test results, such as attendance rates, PACs may not be the best method for arriving at a value for incorporation of the indicator into the API. It is important to consider these questions prior to these indicators coming on line, since how data are collected to support these indicators may depend on whether PACs will be used for them. In the case of pupil attendance rates, for example, if PACs are employed, pupil attendance rates should be collected on an individual pupil basis rather than on a school-level basis.

Weighting of Component Indicators

If the 1999 API includes STAR only, the question of how component indicators are weighted will arise only as future components are introduced. With regard to what weights to assign to these indicators, a system of weights has policy implications: it is a statement as to how much the indicators and the behavior or achievement that they represent are valued. The only legal guidance in regard to component indicator weights is the requirement that test results must constitute at least 60 percent of the index. Whatever weighting system is adopted, it must ensure an orderly and stable development of the API to the maximum extent possible.

Measurement Scale

A fundamental first step in the development of the API is to determine its scale of measurement: simply put, what are its minimum and maximum values? For example, a scale might range from 0 to 100 or 0 to 1000. Whatever scale is adopted, it should be intuitively acceptable to the general public. Also, the measurement scale adopted for 1999 should be maintained in future years. As new component indicators come on line, it will be important to devise a system that maintains the same scale. Once again, confusion should be minimized. Changing scales at the same time as new indicators are introduced could compromise public acceptance of the Index.

Timetable for the Phase-in of Indicators

For the foreseeable future, the API will be a work in progress, since components can only be added to the API, as data become available. At this point, it is projected that the API will consist of the following components by year:

	1999	2000	2001	2002	2003	2004
STAR						
• **Norm-Referenced Test (NRT)**	X	X	X	X	X	X
• **Primary Language Test**	*	X	X	X	X	X
• **Augmented NRT**	*	*	X	X	X	X
CAAAS			X	X	X	X
Attendance (Staff and Pupil)		*	*	*	*	*
Graduation Rates		*	*	*	*	*
High school exit exam						X
Other Components	*	*	*	*	*	*

"X" = Definitely or probably available   "*" = Unknown, possibly available

Process for the Introduction of New Component Indicators

In order to minimize confusion, it is important that there be a well-defined process for the incorporation of new indicators into the API. The role of the Advisory Committee, with guidance from the Technical Design Group, is to determine the availability of legally required component indicators and to identify component indicators beyond those legally required. The Committee recommends to the SPI and the SBE that these indicators will be included in the following year's API. This recommendation will be made once a year at approximately the same time each year, once again to reduce the risk of confusion for parents, educators, and the general public. The Committee's annual recommendation will include an updated timetable for the phase-in of further indicators.

Uses of the API

Ultimately the validity of a statistical measure is determined by the uses to which it is put. Under the law, the API has two major purposes:

- To measure growth of school performance over time
- To rank schools on an annual basis

Growth

At first glance, the calculation of growth is a simple matter: growth in the API will be the increase from one year's API to the next year's API. However, this is complicated by the likelihood that for the next few years, there will be a near constant phase-in of new component indicators. In this situation, growth may only be calculated on the basis of common component indicators. School API rankings for a particular year, on the other hand, will be on the basis of all available component indicators, including new ones. This API, including all new component indicators, will become the baseline against which to compare the next year's API (see "Use of the Academic Performance Index," page 12). The Advisory Committee will recommend a methodology for measuring growth when the 1999 API is developed in the coming months.

While the question of growth targets is not strictly one of API development, how growth targets are defined has significant implications for API design features. The law requires that the growth target shall be at least five percent annually and allows the SBE to set higher growth targets for the "lowest performing schools." Two other related growth issues are the definitions of "comparable improvement" and "significant growth."

Rankings

The API will also be used as the basis for ranking all public schools. The law requires that elementary, middle, and high schools each be **ranked in deciles** by:

- Value of the API
- Growth in the API
- Growth in the API in comparison with schools with "similar characteristics," a rather lengthy list of contextual or background factors

While not required by law, the system of rankings should also include a ranking by:
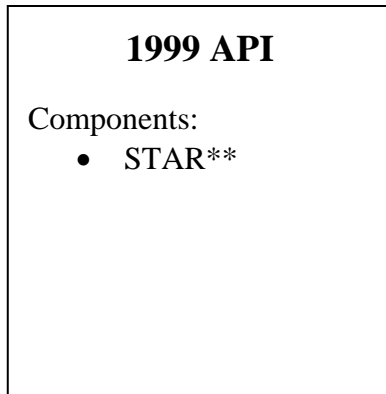
- Value of the API in comparison with schools with "similar characteristics"

This last method of ranking is particularly valuable for a school in attempting to identify academically successful schools with similar background characteristics.
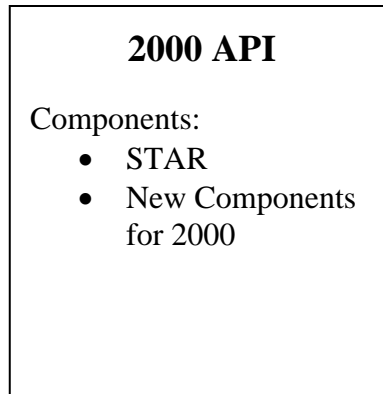
Use of the Academic Performance Index
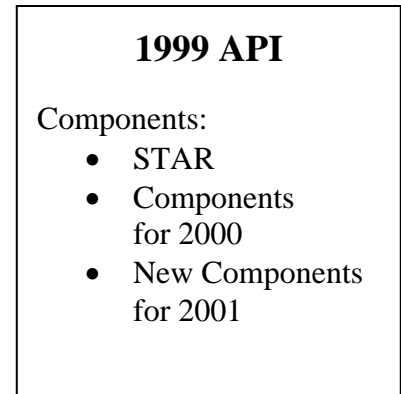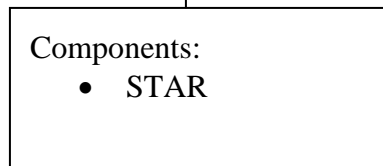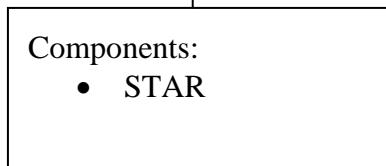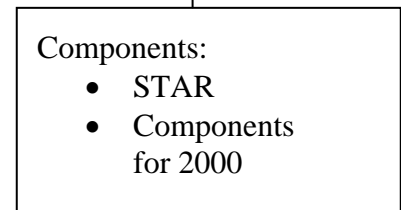
Year to Year Growth*

| **1999** | **2000** | **2001** |

1999 API

Components:
- STAR**

2000 API

Components:
- STAR
- New Components for 2000

1999 API

Components:
- STAR
- Components for 2000
- New Components for 2001

***Growth
1999 to 2000***

Components:
- STAR

Components:
- STAR

***Growth
2000 to 2001***

Components:
- STAR
- Components for 2000

Components:
- STAR
- Components for 2000

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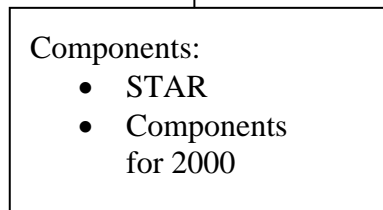
* Calculate growth in API based on same component indicators from year to year.

** Assume that STAR is the sole component of the 1999 API.